1   **ABSTRACT**

        A distortion compensation method includes determining an
undisturbed phase for at least one of a first position
indication signal and a second position indication signal.
5   The method includes determining an undisturbed ratio that
relates the amplitude of the first position indication signal
at a first frequency to the amplitude of the second position
indication signal at a second frequency. The method also
includes determining a disturbed amplitude of the position
10 indication signal and adjusting a position indication based on
the disturbed amplitude and phase, the undisturbed amplitude
ratio, and the undisturbed phase. The method further
comprises determining a relationship between the eddy current
phase of the first position indication signal and the second
15 position indication signal.